



James McKernan

Industrial Design | User Centred Design | Product Design

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# Profile

I am a passionate designer in my final year studying Product Design & Innovation at university in Glasgow, Scotland. I like to create simple things which make people happy and improve their lives. I am now looking to expand my horizons and explore design culture around the world. I feel it is imperative as a designer to discover and experience different people and places; to expand perspective and thinking.



Prototyping  
& Model Making



Photography



Pro Engineer  
& Creo



InDesign



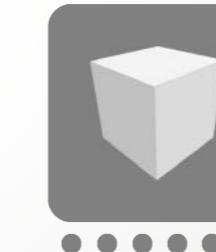
Lightroom



University of Strathclyde  
BSc (Hons) Product Design & Innovation

Lenzie Academy - Higher Grades  
Product Design - A  
Photography - A  
Physics - B  
Graphic Communication - B  
English - B

Hand  
Rendering



SolidWorks



PhotoShop



Microsoft  
Office



Mac OS X



I am obsessed with hiking and photography, my two greatest passions outside design. I love basketball and snowboarding whenever I can. Some of my other passions in life include cycling, reading, music, drawing, craft beer, whisky, socialising, movies and attending art, photography and design exhibitions.

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# REVOLUTION

Exercise Bike

6 Week Project



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Assigned with creating a practical yet robust piece of exercise equipment suitable for outdoor use, I produced a unique and innovative design for an exercise bike.

Required elements of design:

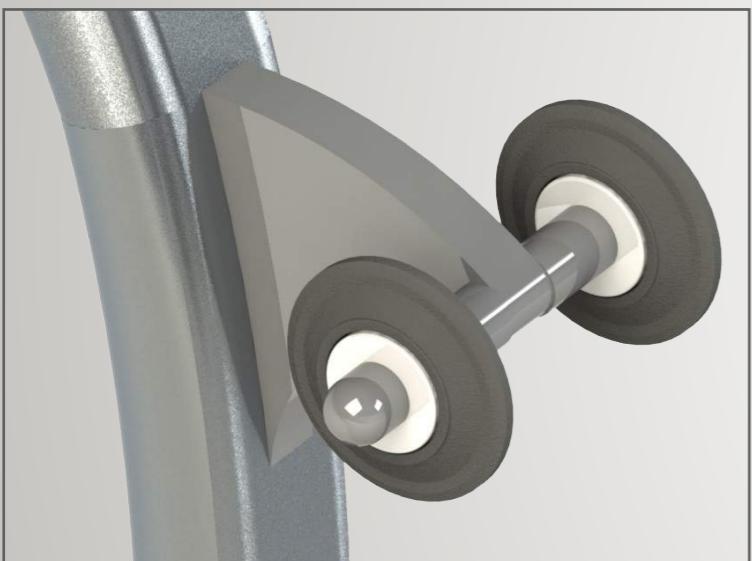
- Target specific sport
- Permanent or portable
- Adjustable mechanical resistance
- Sensors and electronic display

The outdated, industrial and hulking design of current exercise bikes requires revitalising for the modern age. I wanted to create a product which is not only striking and appealing to the user aesthetically but also functions with them symbiotically.

The product is portable to allows users to store the bike more easily, to travel and set up the bike wherever and whenever they wish and to create the opportunity for group participation through this.



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# Revolution

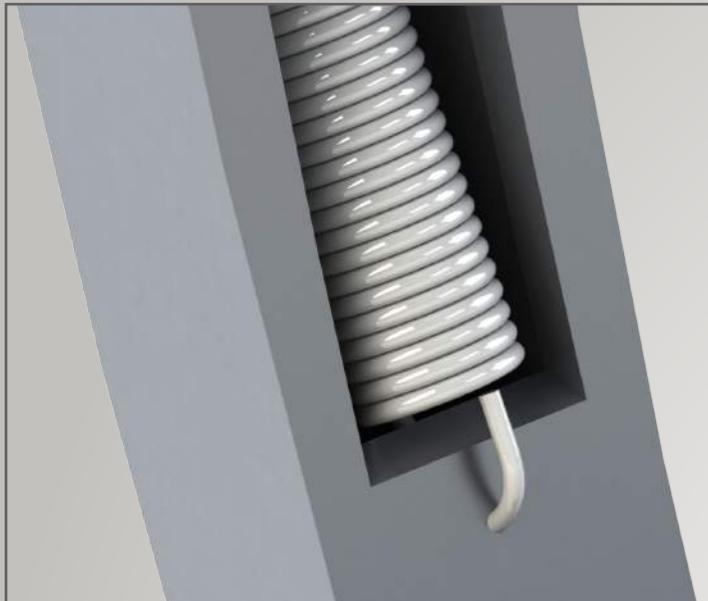
The complete product consists of 68 unique and 112 total components.

I designed the User Interface to be simpler and more intuitive than current generations with several features exclusive to the product. These include inter-linked group sessions and a dynamic, immersive route and track experience.

The majority of the bike is manufactured from aluminium for its strength-weight properties and sleek appearance. Several components are made from ABS plastic for either economic, structural or accessibility reasons.



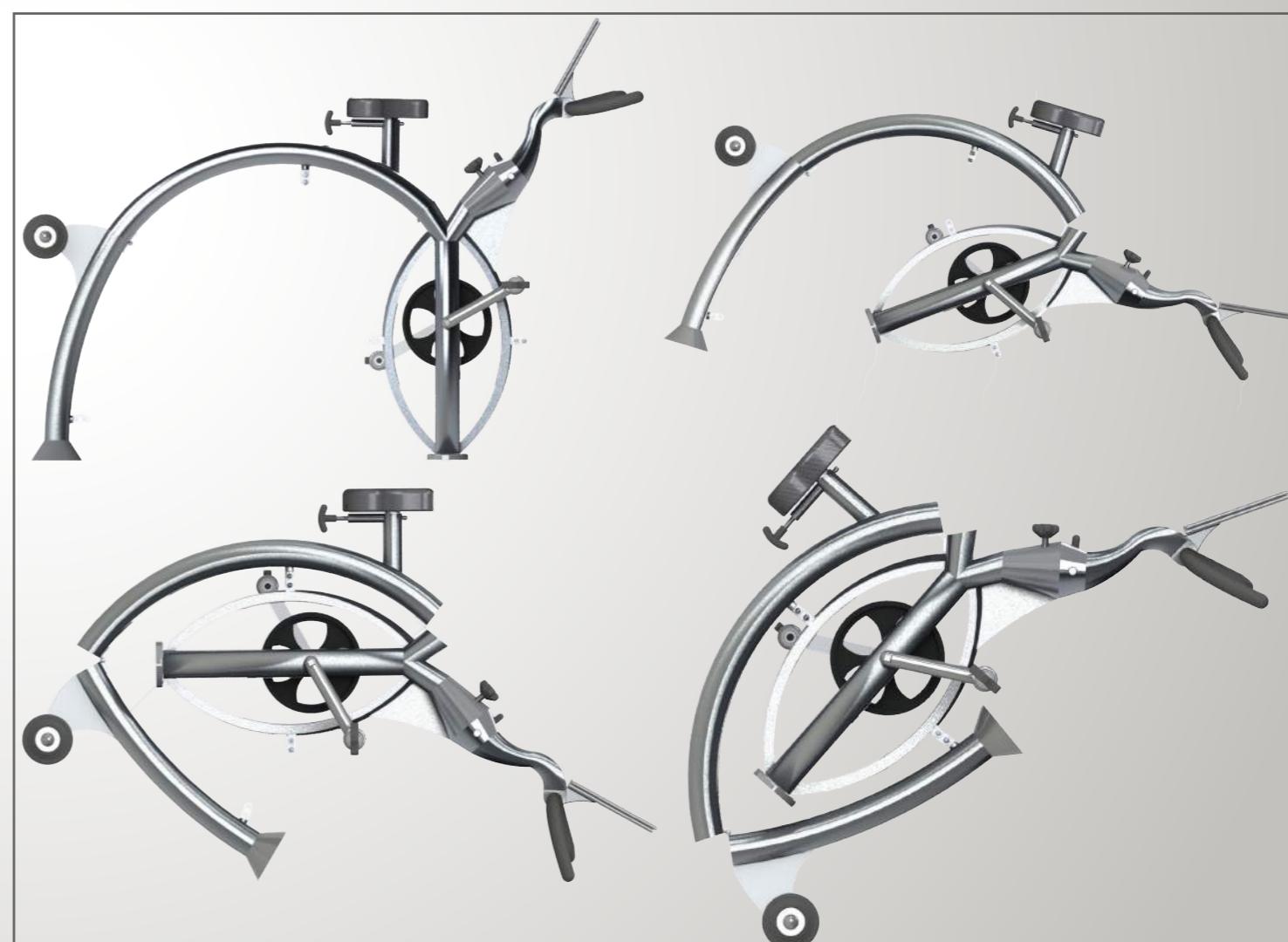
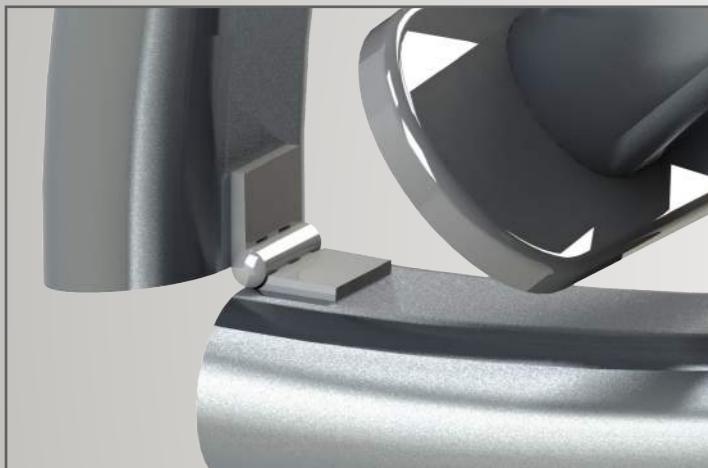
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The UI would feature an immersive element which allows users to place themselves on a road or track around the world, creating a more realistic and enjoyable experience.

The bike features an adjustable system which utilises magnetic resistance to alter the difficulty. This can be controlled both manually and automatically through the UI.

An interactive version of the UI and a more comprehensive presentation of this product detailing function, manufacture, physical analysis and cost can be found on my website.

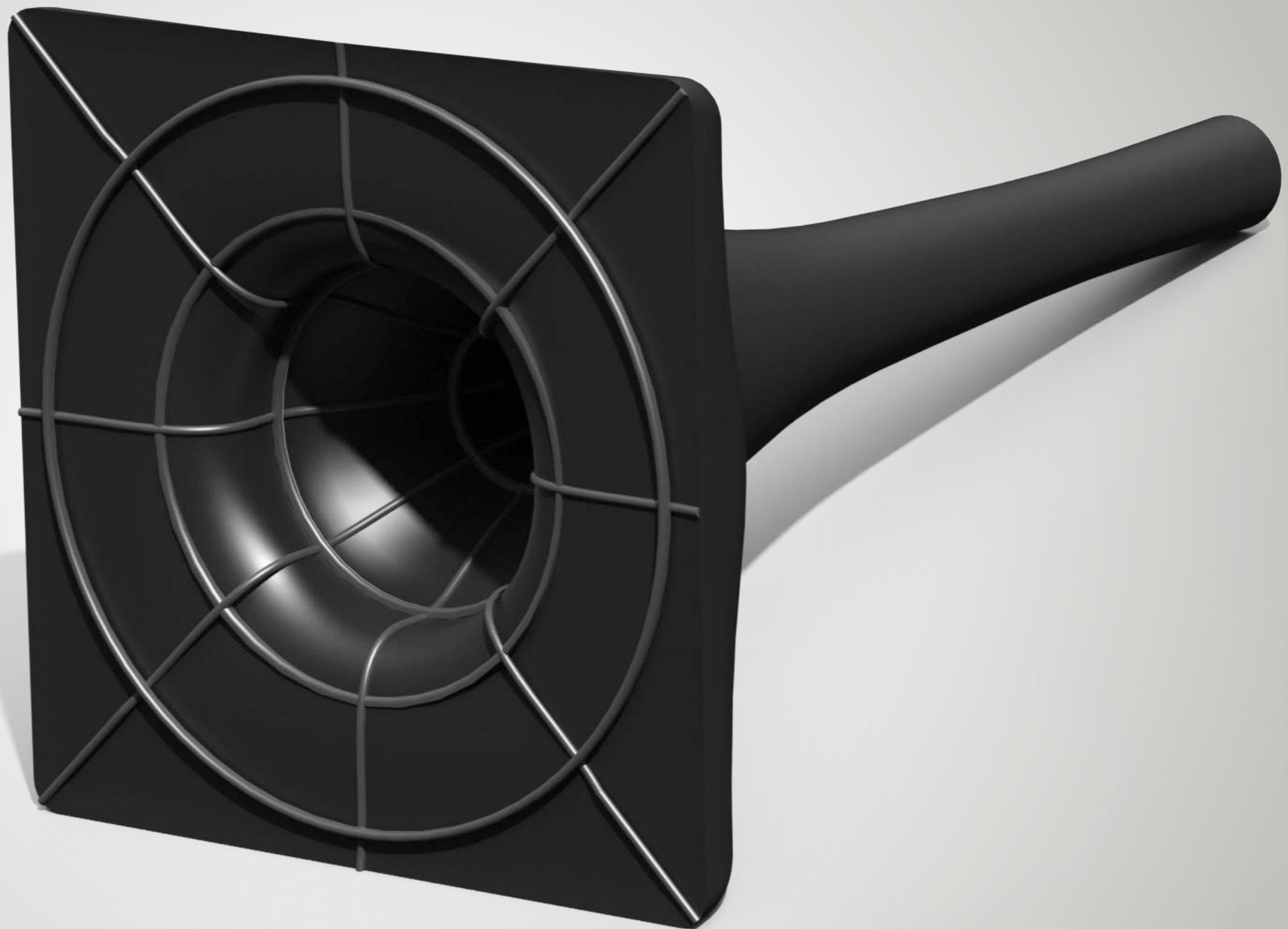


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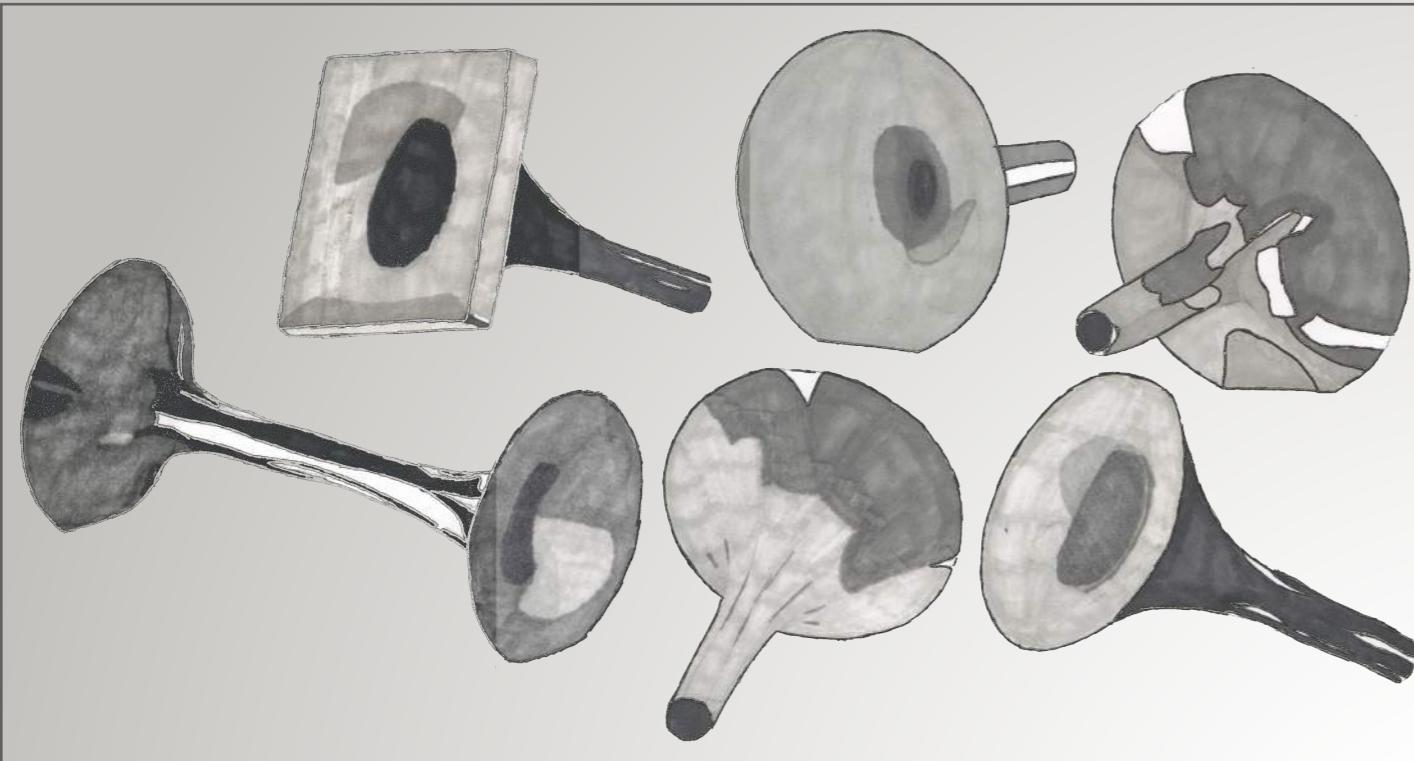
# HORIZON

Loudspeaker

6 Week Project



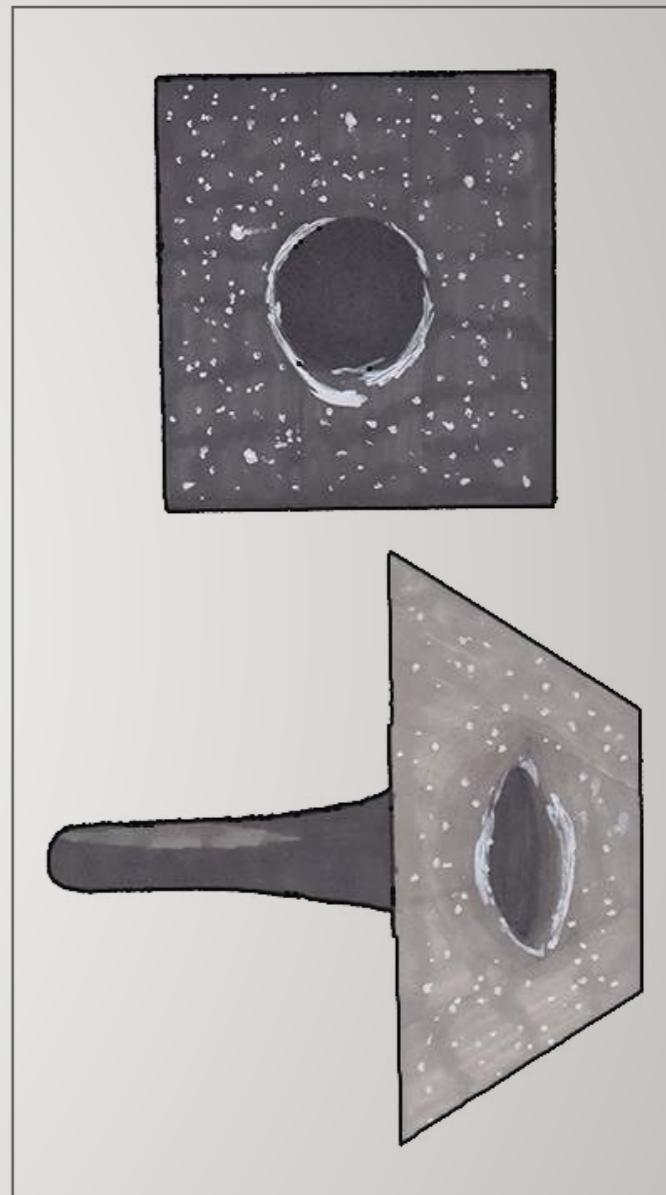
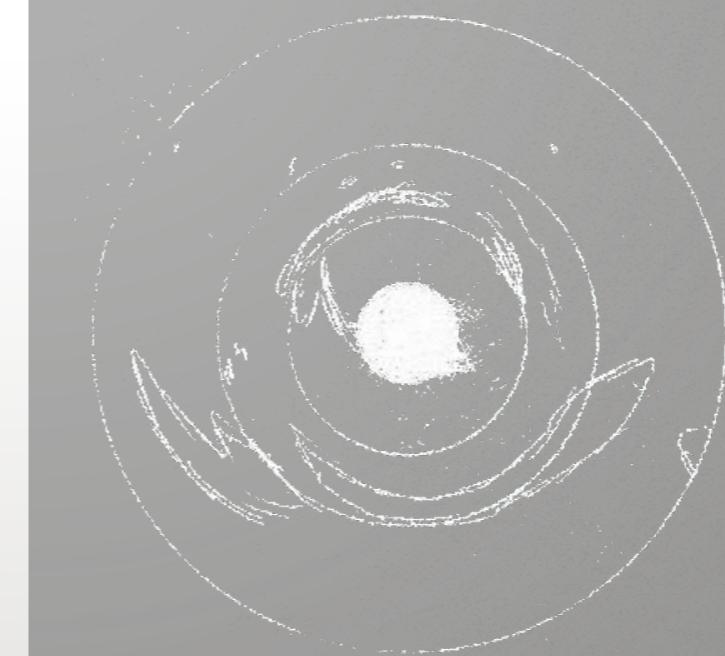
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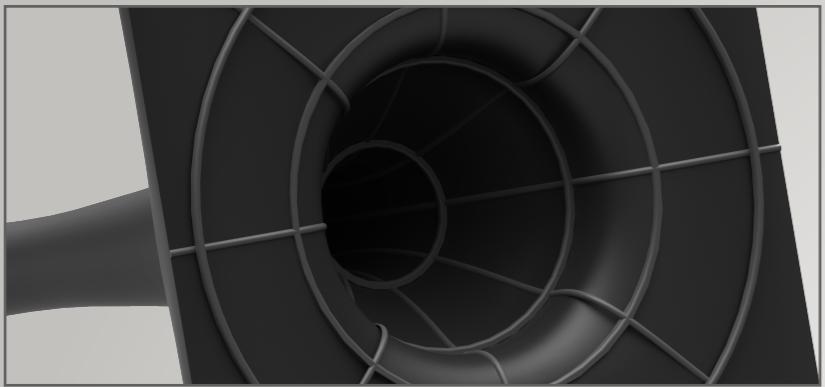
The design of an audio speaker that evokes a defined emotional meaning and demonstrates a novel approach to form. The primary focus of the design on form - shape, aesthetics, surface qualities, colour, multi-sensory experience.

I created a product which encapsulates and symbolises the feeling of Loss through the omnipotent power of a Black Hole, developing the design through sketching, model making, digital surfacing and graphics.

PU foam was used to mock-up different designs to determine the ultimate form.



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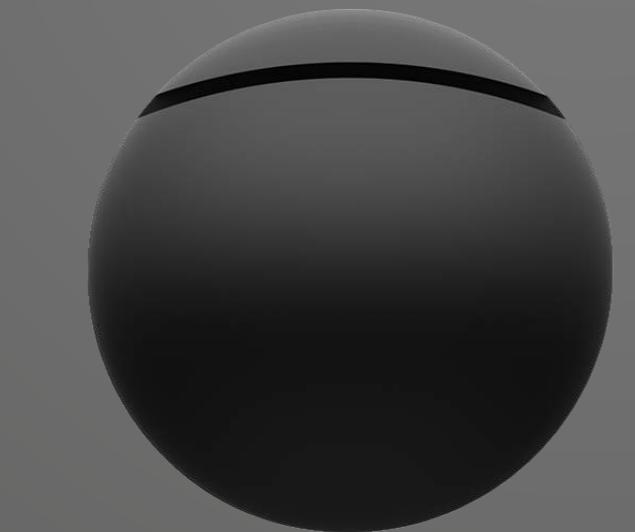


The complete form of the product is designed to pull the user into its depths with the concentric ribs aiding to this illusion.

The long curvilinear shape of the body displays and evokes the length and ultimate irresolute potency which the feeling of loss distils.

The distinct square to circular cross section flows to create a unique form, partnering with each element of the product for a deep and sweeping void experience.

I opted for a distinct matte finish as I feel this represents the emotion more directly than a gloss or textured finish



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# Horizon



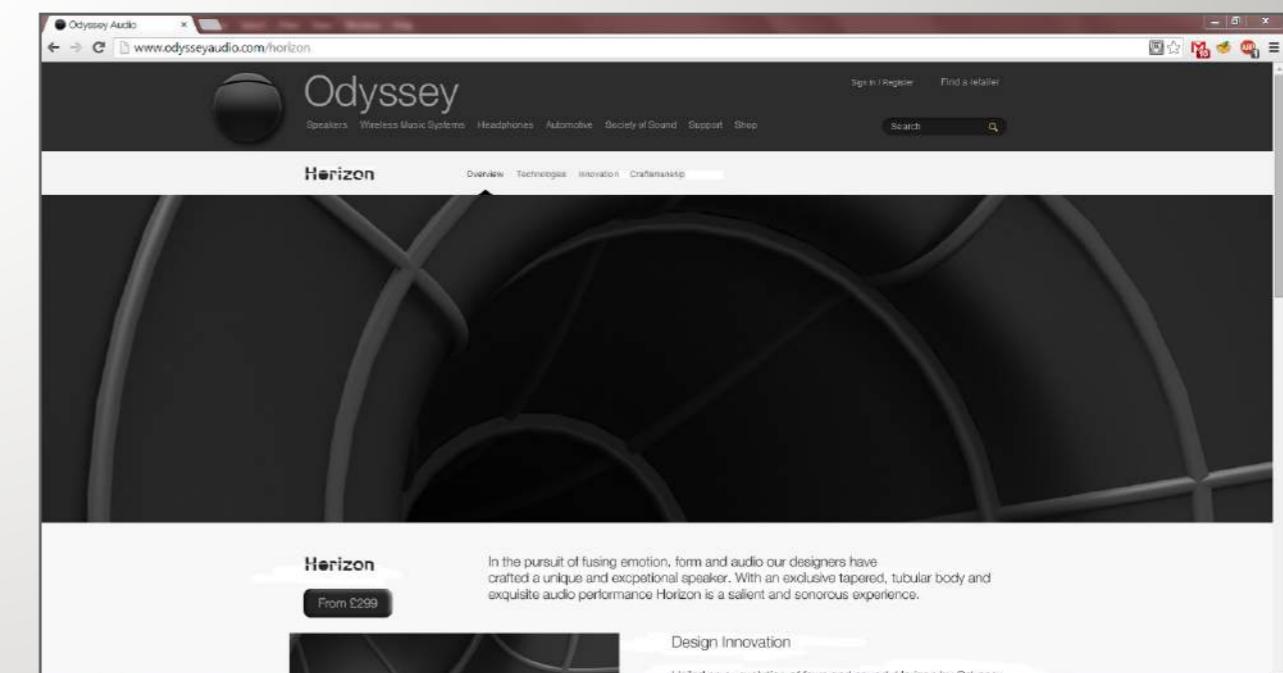
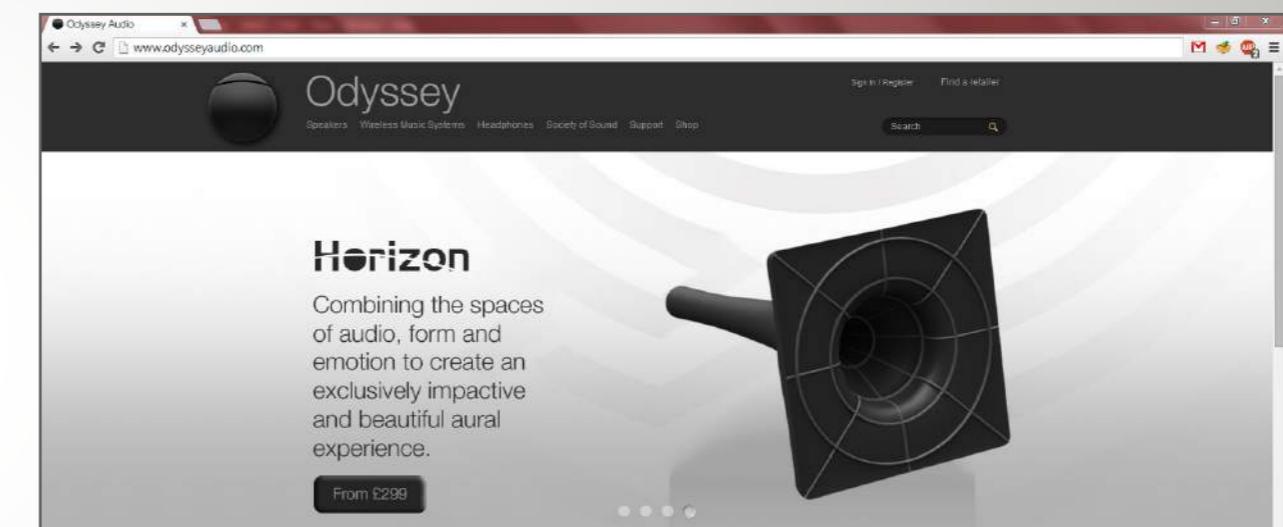
I created a brand and marketing strategy for the product, focusing on four main areas including:

- Print graphic
- Web interface
- Packaging
- Store exterior & interior

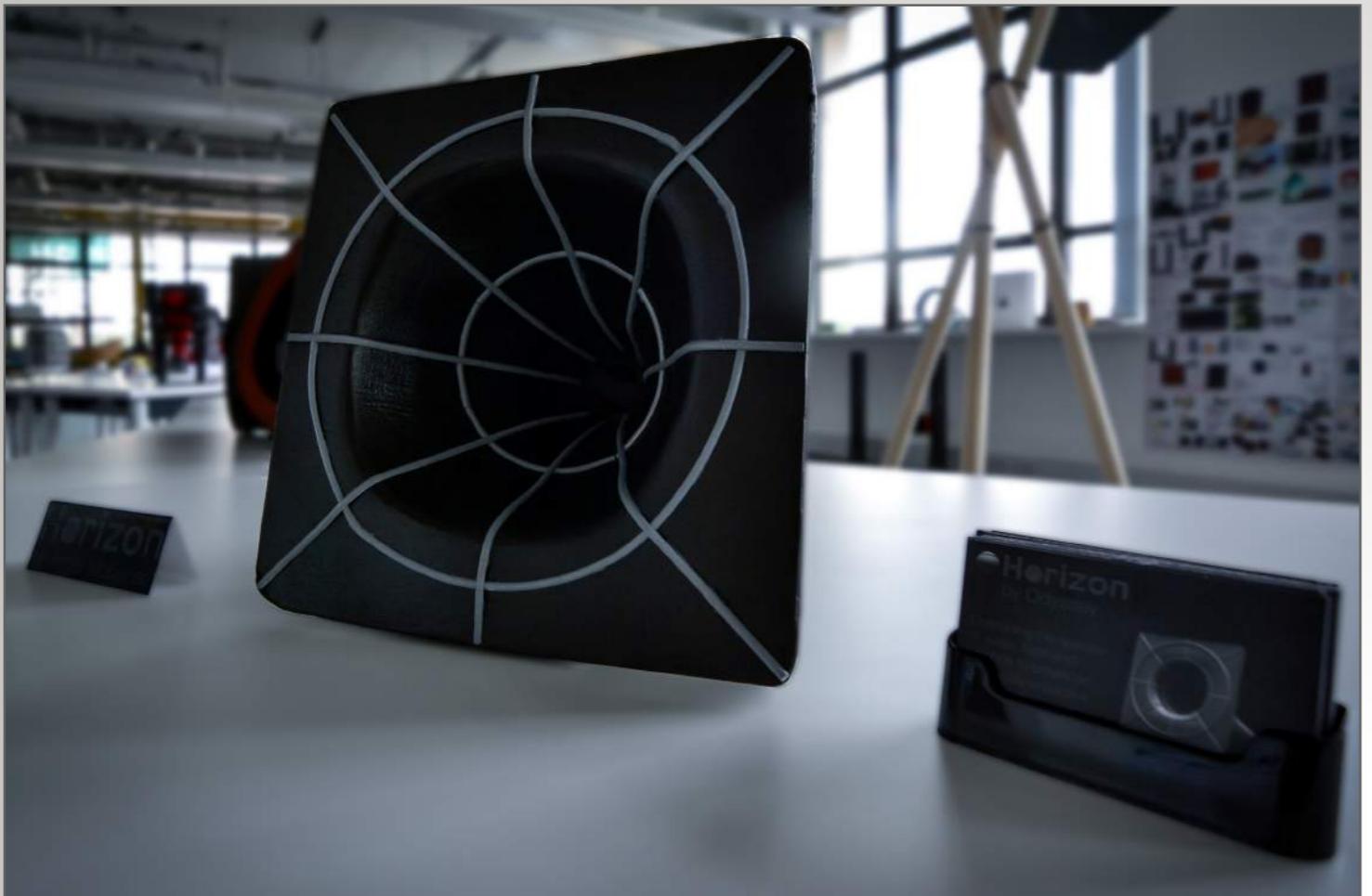
I aimed for a minimalistic design throughout the strategy, with simple layouts and colour palettes representing the sleek and smooth nature of the modern age.



I gave the brand and model distinct analogous names which correspond to both the product and the emotion it portrays. The speaker itself is called Horizon for the border of spacetime within a blackhole. The company is called Odyssey for both the journey through the feeling of loss and as a homage to the movie 2001: A Space Odyssey.

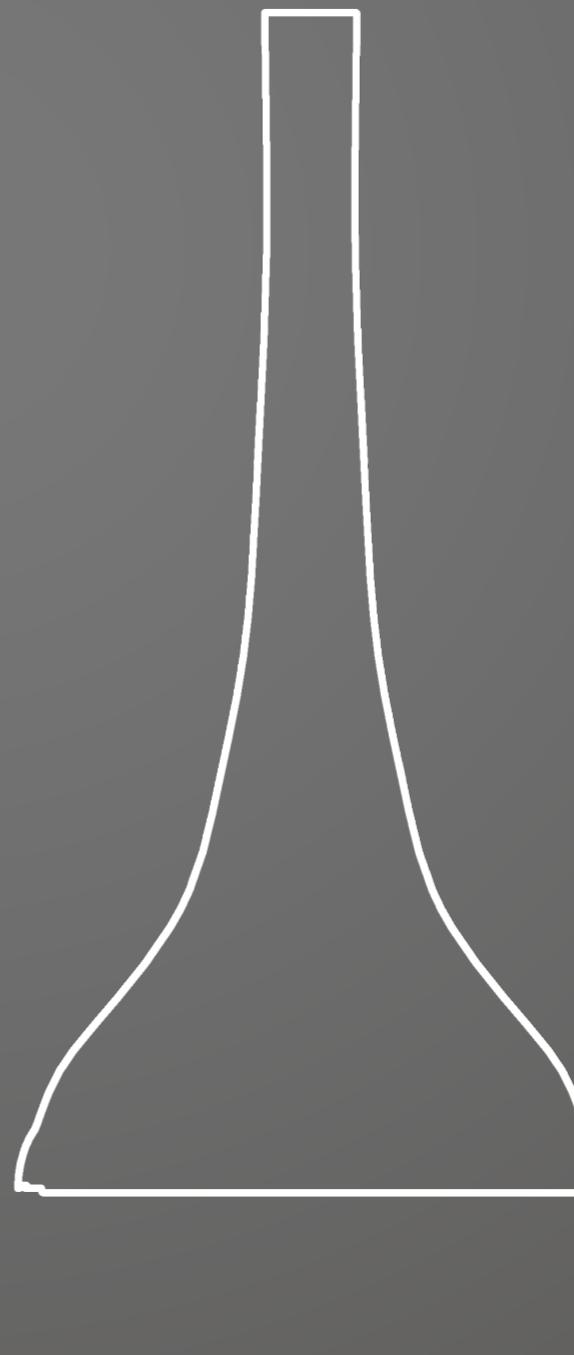


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The final segment of the project focused around a design exhibition for which I produced an aesthetic model that also possessed an element of function due to a small removable speaker to which people could attach their mp3 players.

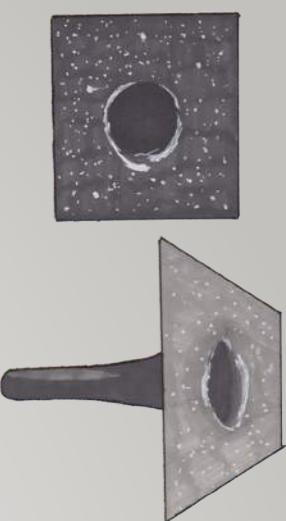
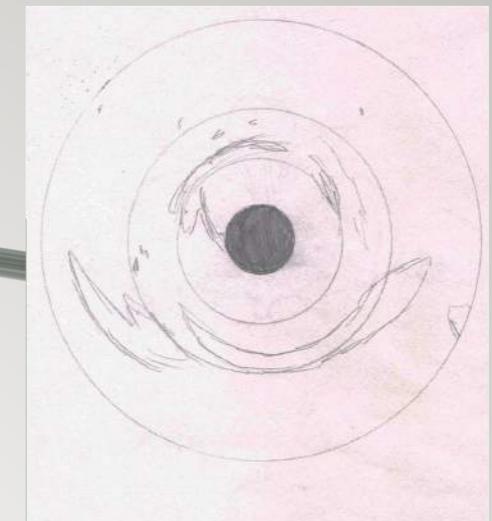
This model was made completely from PU foam with filler, primer and matte spray paint. I made use of styrene strips for small modelling kits as the ribs.



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Inspire



Ideate

Refine

Develop

Virtualise

Realise

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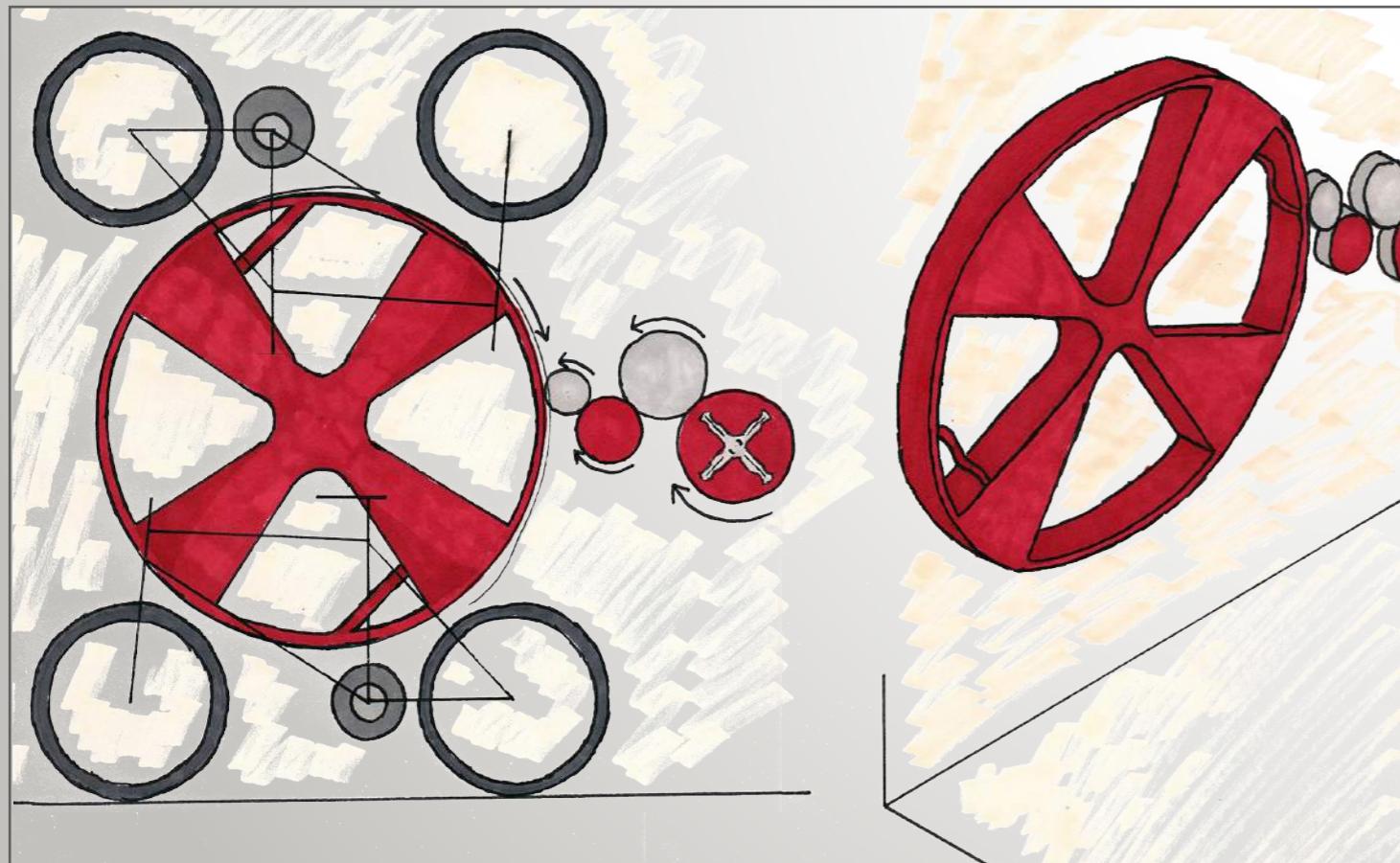
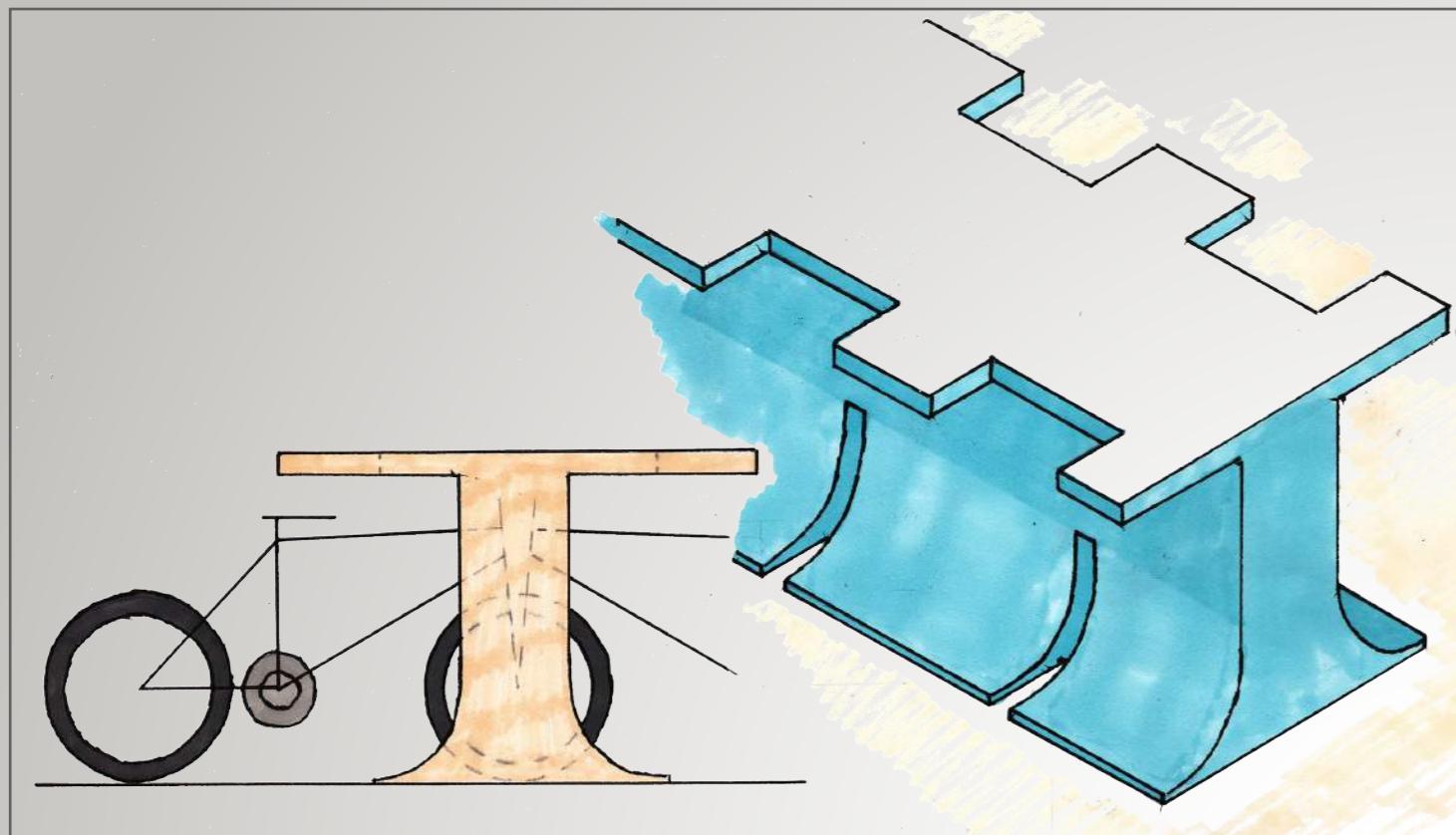
# HI-STORE

Indoor Bicycle Storage

4 Week Project



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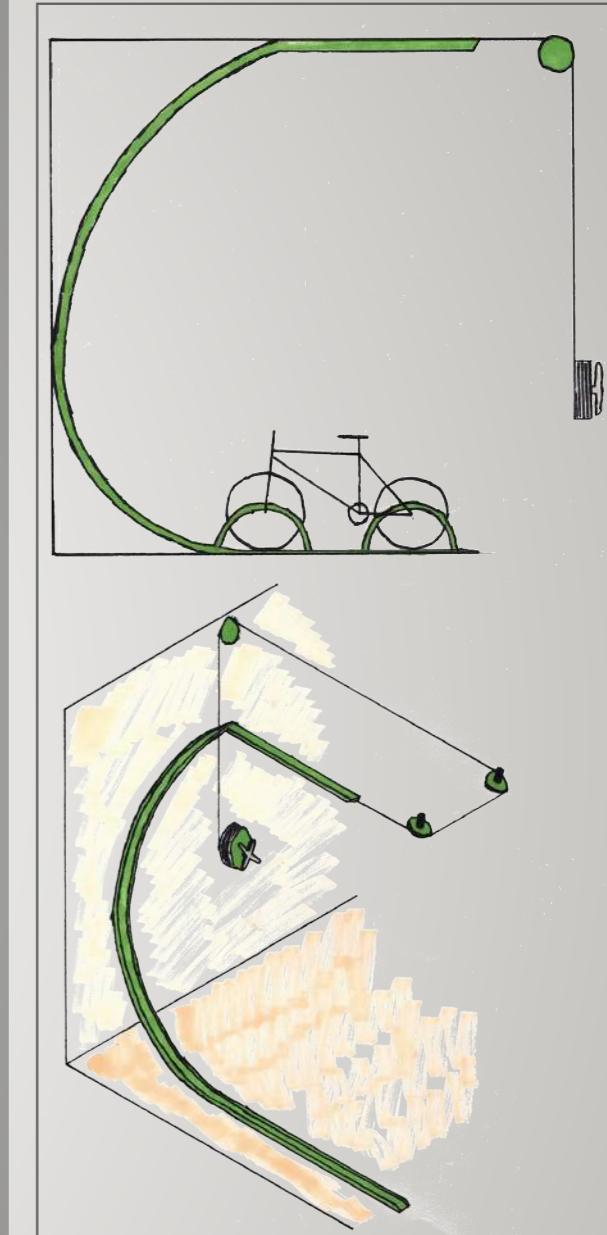
A team assignment involving the design of a product to improve indoor bicycle storage. This project specifically revolved around the development of a product using various design methods.

As elected team leader I organised the project and ensured cohesive management throughout the six week timeframe.

My own personal tasks during the project involved organising and participating in various design sessions including:

- Creative Design Methods (Lateral Thinking; Brainstorming; 6.3.5; Morphological Charts; TRIZ)
- Evaluation Methods (Focus Groups; Dot Sticking; Controlled Convergence and Weighting - Rating Matrices)
- Development Methods (Environment; Manufacture and Assembly; Value Analysis and Engineering)

The work shown is my own excerpts from the project (minus graphical diagrams and reports of methods)



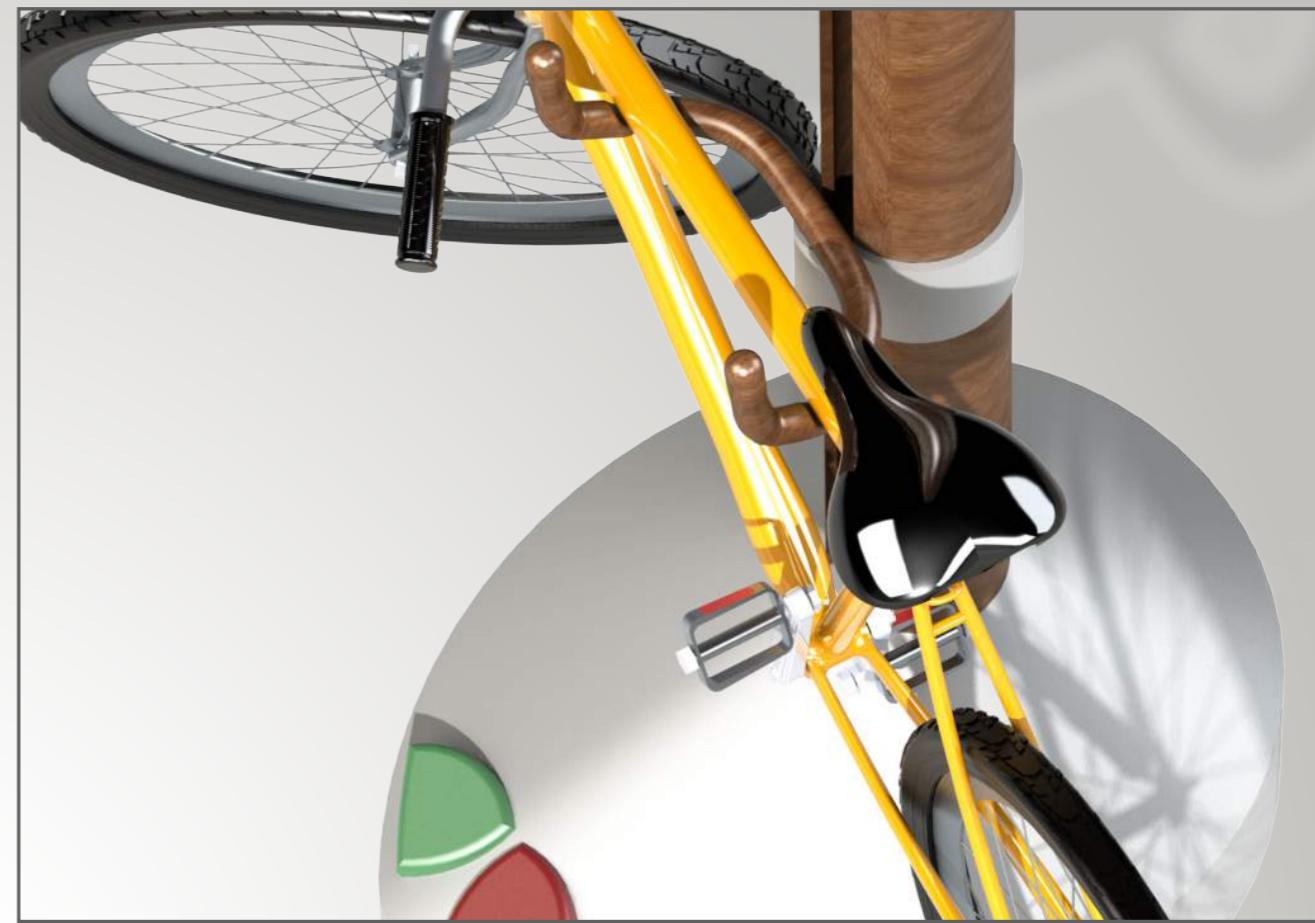
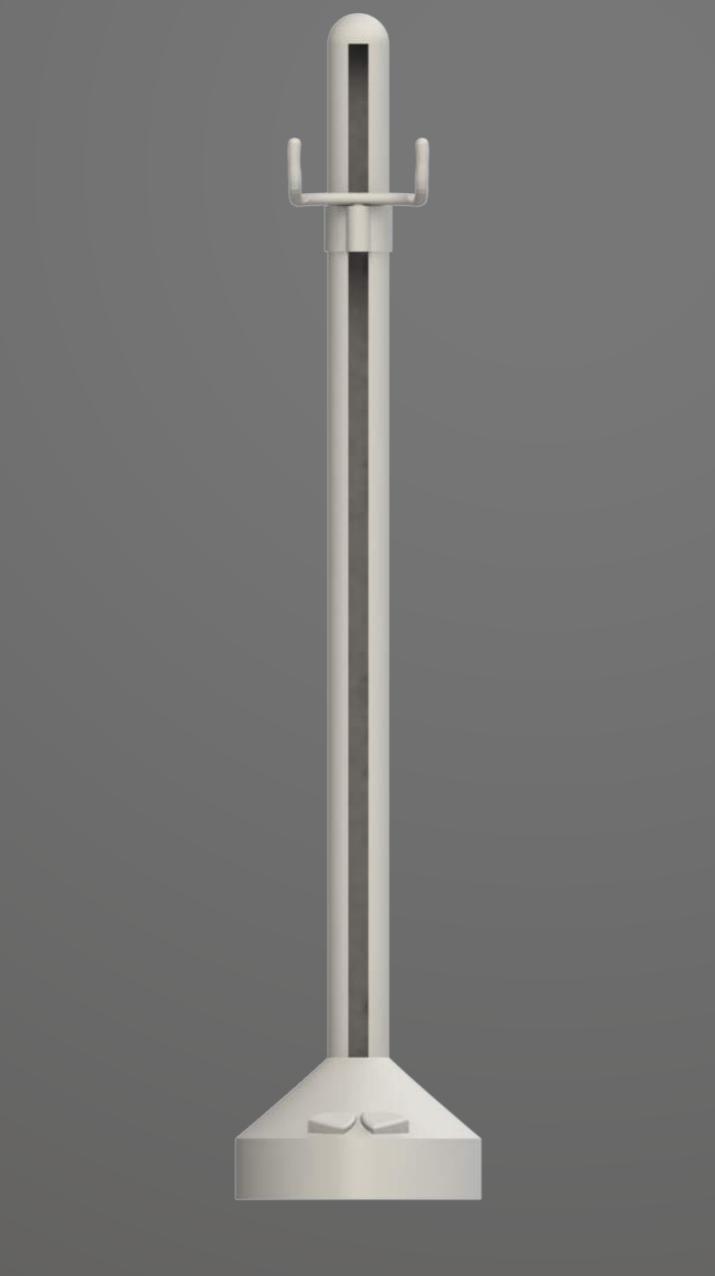
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The final design was a simple solution which satisfied all elements of the PDS.

For environmental and aesthetic reasons the product it is made from sustainable woods and recyclable thermoplastic. This gives a unique style and a positive eco-friendly image.

The bicycle is stored aloft to utilise unused ceiling space and maximise floor area. The base is designed for storing sand to ensure stability and reduce weight during transportation



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# LOQUI

Social Interaction Device

3 Week Project



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The design of a future social device. I developed a band which contains information about the users recent and current activity such as a book they are reading or show they are watching. This product connects via WiFi/Bluetooth to other devices in the area and alert the user that someone nearby shares mutual interest. This product is designed to spark conversation, improve and encourage involvement and socialisation in everyday life.

Other initial designs include:

- A Social Cube which notifies the user of relative activities in their area.
- Social Seating which informs people of whether the person on the respective seat would appreciate company or enjoy conversation.
- A Sign Translator which utilises a series of rings to translate the motion and gesture of the users hands. The desired words are then projected via a small loudspeaker. This allows deaf individuals to interact more effectively and frequently with other people.



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# WIP

## Final Year Individual Project: Integration of a trekking pole and camera tripod

For this project I am utilising all of the knowledge and skills I have gained throughout my educational career. I am covering the complete design process in this project; from inspiration and research to ideation and development, manufacturing and management to marketing and branding.

### Objectives:

Produce folio and detailed drawing set

Demonstrate professional management of a project. Include aspects of business planning in relation to a product

Appreciate legislative, ethical and environmental requirements and their influence in product design and to demonstrate their application



## Industrial Group Project: Develop a product to relieve nasal wall collapse

Working in conjunction with the clients Scottish Health Innovations Ltd and a consultant ENT surgeon, my team and I are to design a discreet product which increases respiratory performance for sufferers of nasal wall collapse and breathing difficulties.

### Objectives:

Project report detailing solution, process, and business case

Folio including technical drawing pack

Working prototype



## Mechatronic Design Project: Design, prototype and program an automated rover to conduct farm work

Working in a 21 person team in three sub-groups. My group and I are working on detailed concept, construction and programming of the rover.

### Objectives:

Report containing: Product design specification conceptual design, CAD model, control program design, detail design, component selection, FEA, Material/sensor selection

Prototype and system integration



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# PHOTOGRAPHY

James McKernan



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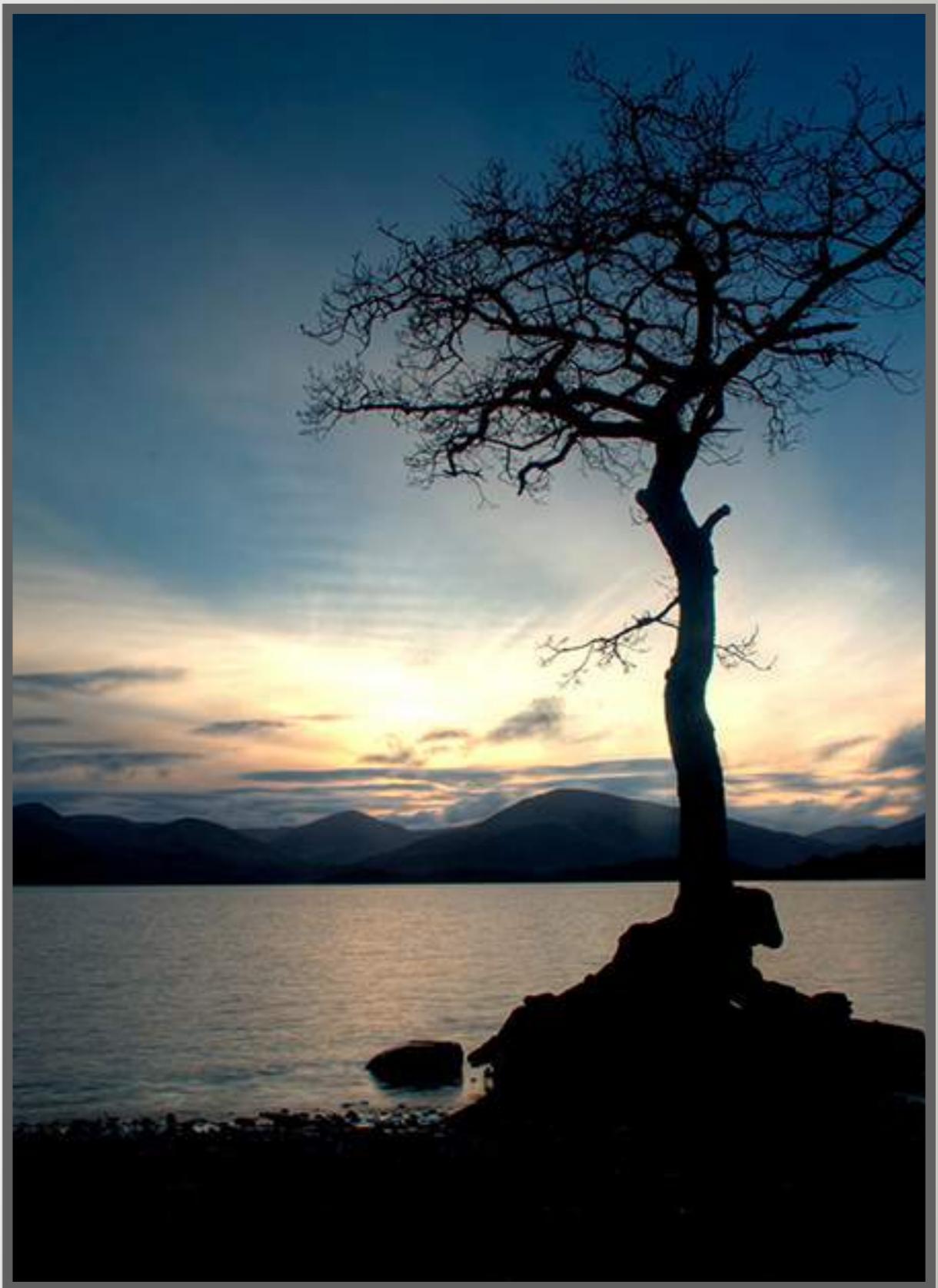
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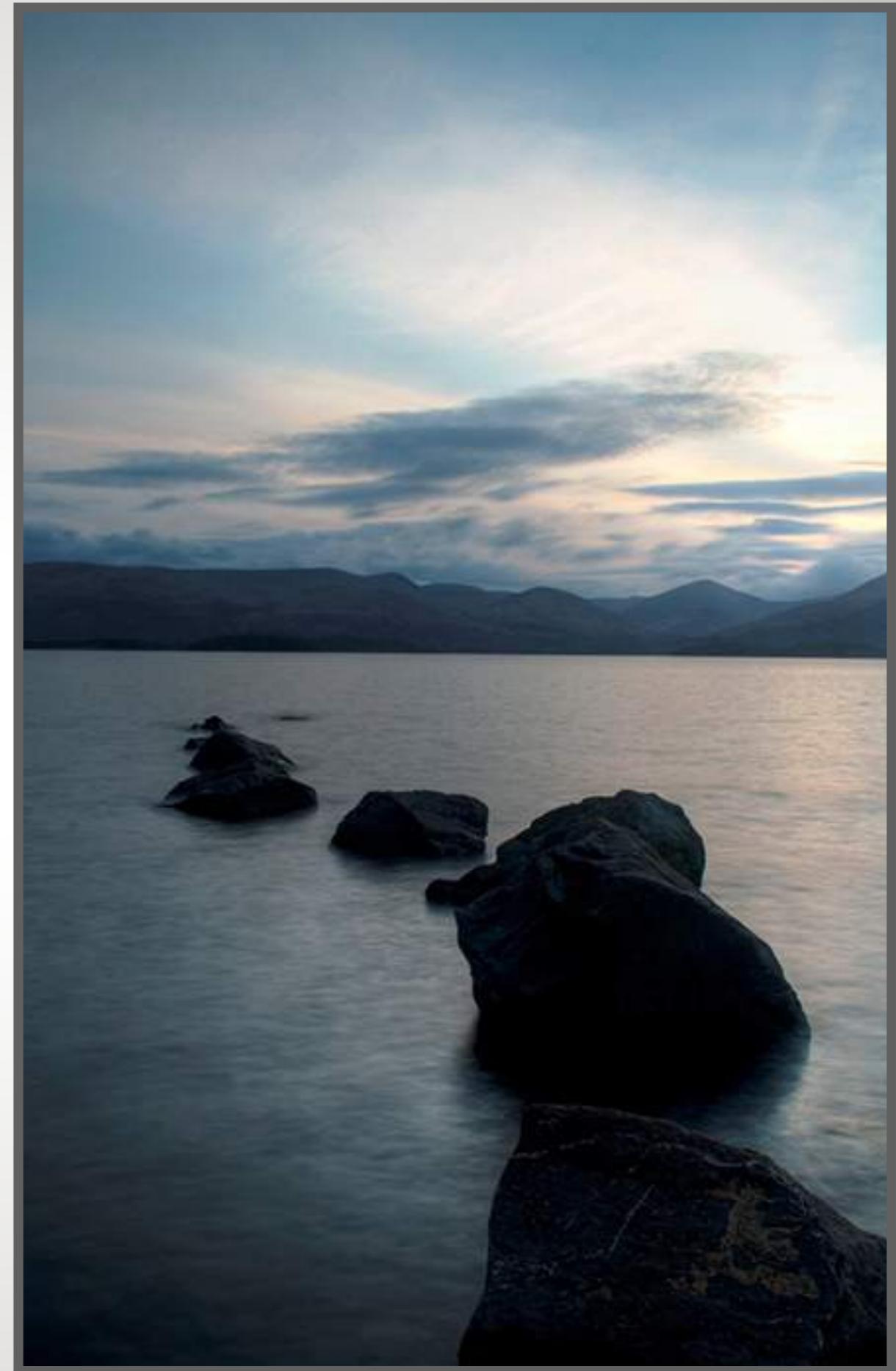
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# Curriculum Vitae

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